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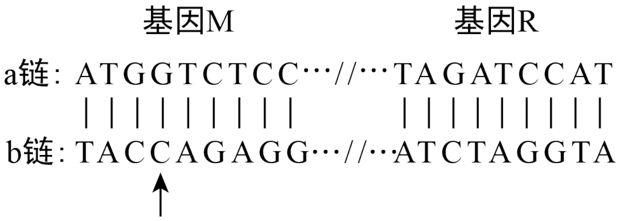

A[illegible]M[illegible]

B[illegible]a[illegible]b[illegible]

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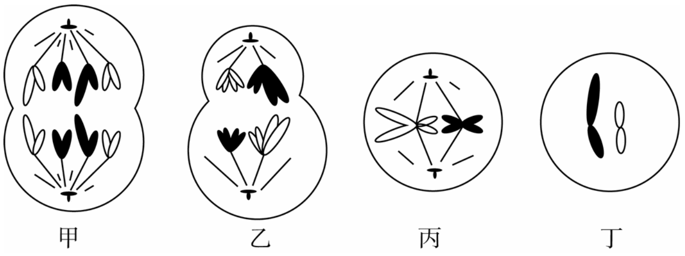
D[illegible]

2[illegible]（　）



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C[illegible]21[illegible]50%

D[illegible]

4[illegible]R[illegible]r[illegible]X[illegible]F_1[illegible]1[illegible]XXY[illegible]

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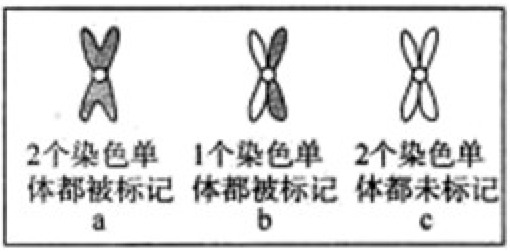

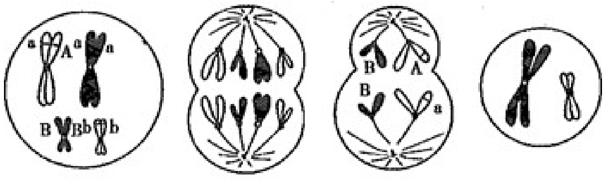

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A[illegible]①[illegible]

B[illegible]②[illegible]①

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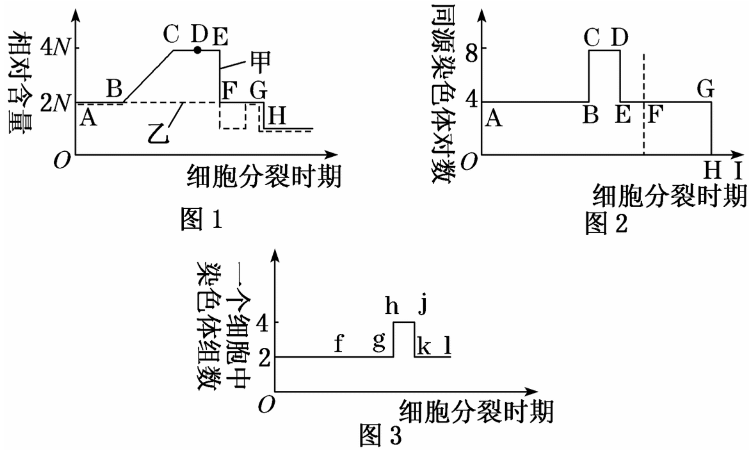

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B[illegible]3[illegible]

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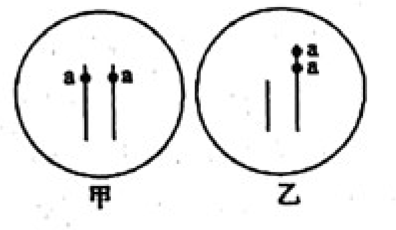

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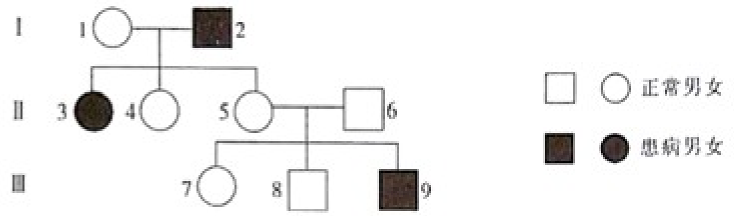

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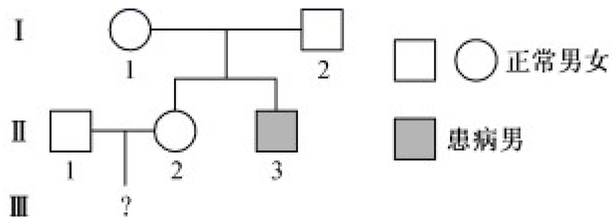

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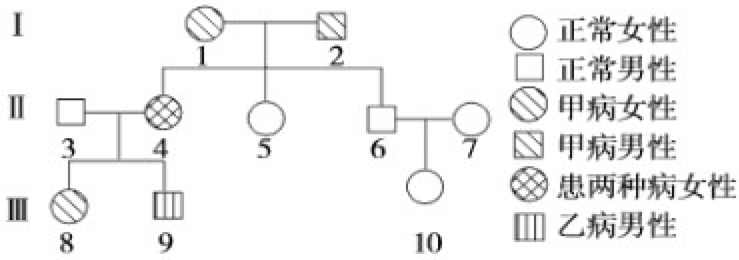

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D[illegible] $^{14}NH_4Cl$ [illegible] ^{14}N [illegible]

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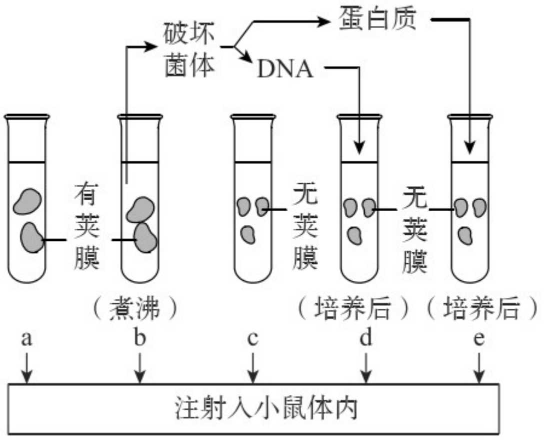

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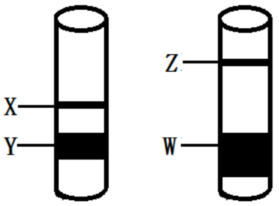

图1 图2

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D□□DNA□□□□□□□□□□16□DNA□□

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A□^{32}P□□□□□□□□□□□□□□□□□□□□□□□□3□□□□□□□□□□□□□□□□□□1/4

B□□DNA□□□□300□□□□□□□□□1□□□□A+T□□□□□35%□□□3□□□□□DNA□□□□□□□780□□□□□□□□□□

C□□□□□□□DNA□^{32}P□□□□□□^{32}P□□□□□□□□□□□□□□□□2□□□□□□□□□□□□□□□□□□□□□□□□□□

D□DNA□□□^{32}P□□□□□□□□□□□□□□□□□□□n□□□□DNA□□□□□2/2^n

31□□□□□“□□□□□□□□”□“DNA □□□□”□□□□□□□□□□□□□□□   □

A□□□□ DNA □□□G □□□□□□ 38%□□□□□□□ T □□ DNA □□□□□□□□□ 5%□□□□□□□ T □□ DNA □□□□□□□□□

5%

B□□□□ 1000 □□□□ DNA □□□□□□□□□□ A:T:C:G=1:2:3:4,□□□□□□□□□□□ 4^{1000} □

C□□□□□ DNA □□□ A □ a □□□ DNA □□ n □□□□□□□ A □□□□ a^2n

D□□□□□ 800 □□□,□□□□□□□ mRNA □□□□ 300 □□□

32□□□□□□□□□□□□□□□□□□□□□□□□□□□□S □□□□ 4 □□□□□□□□□$S_{1□4}$□□□□□□□□□□□□ S □□□□□□□□□□□□□□□□□□□□□□□□□□□□

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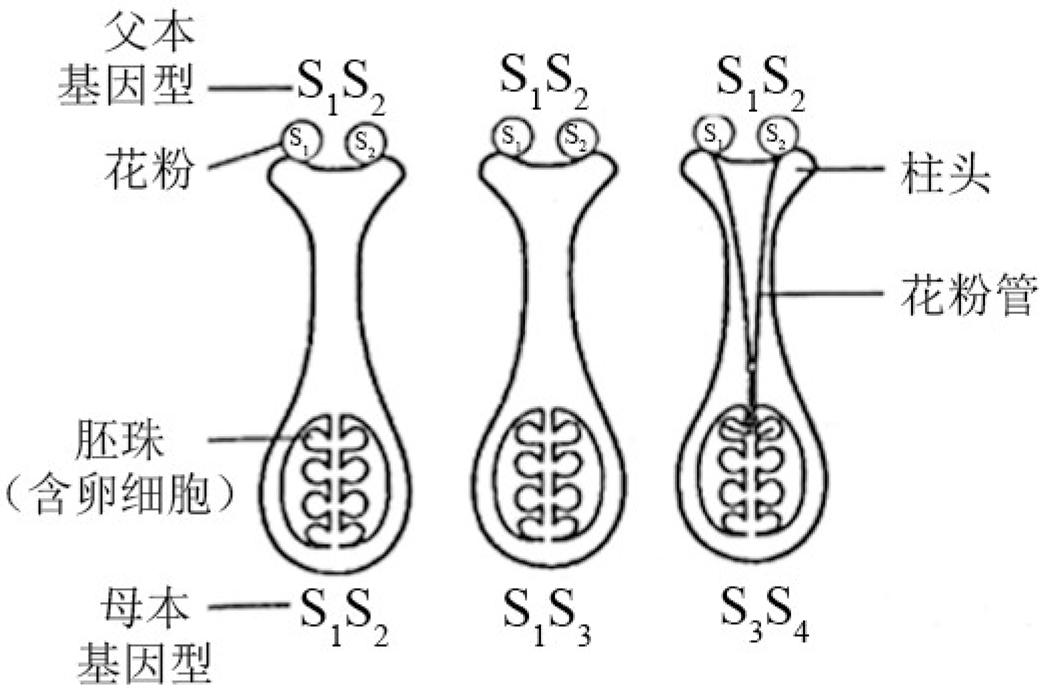

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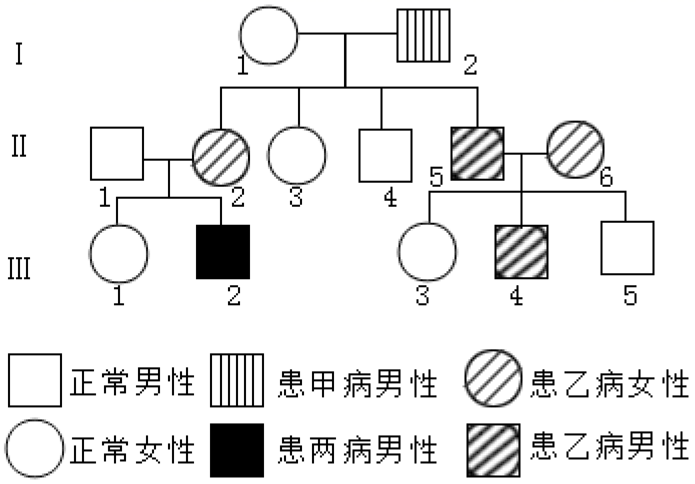

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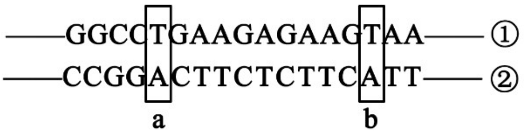
B□□□□Ⅱ-6 □□□□□□□□□□□□□□□Ⅲ-2 □Ⅲ-3 □□□□□□□□□□□□□□□□□□□□□□□□□□ 5/8

C□Ⅱ-5 □□

D□□

34□□□□DNA□□□A□15%□□□□□DNA□□□□□□□□□□□□□□□□□□□□□□□□□□□“—□□□—□□□—□□□—□□□”□□□□□□□□□□□□□□□□□□□□□□□ □



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赖氨酸的密码子：AAA\AAG
终 止 密 码 子：UAG\UAA\UGA

A□□DNA□□□□□mRNA□G+C□70%

B□□DNA□□□□□□□□□□□□②□□

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35□□□□DNA□□□□□□□K□□□α□A□T□□□m%□□□□□□□□□□□ □

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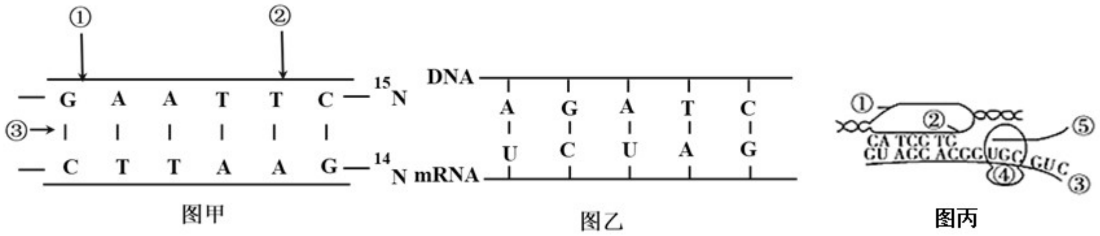
36□□□□□□□□□□□□□□DNA□□□□□□□□□□□□□□□□□ □



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C□□□□□□DNA□□□1000□□□□□□□□□□□□□□□□□□□□□60□□□□DNA□□□□□□□□□□□□□□□□□□□□□□3000□

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A□24%　B□22%　C□20%　D□□□□□

38□□□□□A□B□□□□□□□□□□□□□□□□□□A□□□□□□□m□□B□□□□□□□n□□□□□□□□□□□□□□□□(　)

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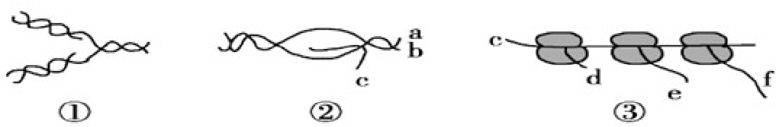

A□①□ DNA □□□□②□□□□③□□□□□□□□□□□□□□□□□□□

B□②③□□□□□□□□□□□□③□□ mRNA □□□□□□□□□□□□□□□□

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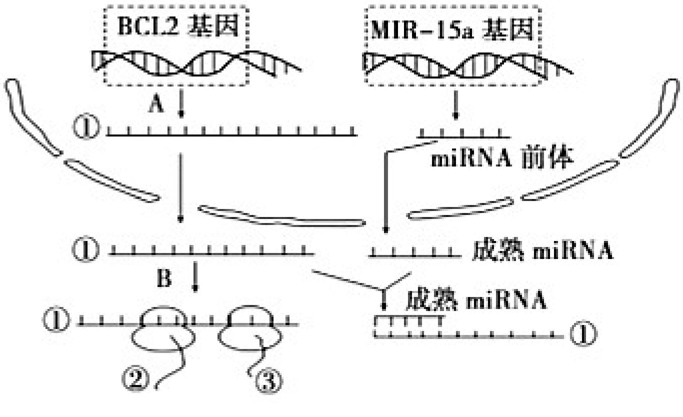
41□miRNA □□□□□□□□□□□□□□□□□□ RNA□□□□□□□□□□□□□□□□□□□□□□□BCL2 □□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□ MIR-15a □□□□□□□ miRNA □□□□□□□□□□□□□　　□



A□A □ BCL2 □□□□□□□□□□□□□□□□□□□□□

B□②③□□□□□□□□□□□□□□□□□□□□□□□□

C□miNA □□□ BCL2 □□□□□ mRNA □□□□□□□□□

D□□□□□□ MIR-15a □□□□□□□□□□□□□□□□□

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B[illegible]①②[illegible]

C[illegible]②[illegible]

D[illegible]

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C[illegible]“[illegible]”[illegible]

D[illegible]TIM[illegible]PER[illegible]

[illegible]

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D[illegible]

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C[illegible]N/6[illegible]

D[illegible]n[illegible]$2^{n-1}a$[illegible]

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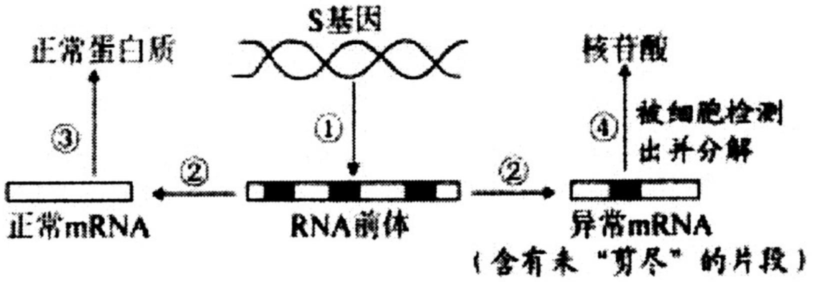

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C□□□③□□□□□□□□□□□mRNA□□□□□□□□□□□□

D□□□④□□□□mRNA□□□□□□□□□□□□□RNA□□□□

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48□□□□□□□□□□EeX^{F}Y□□

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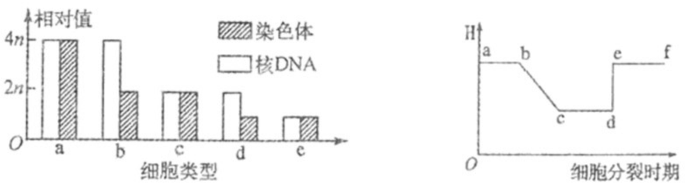

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□5□□□□______□□1□□□□□□□□2□Y□□□□cd□□□H□□□______□

49□□□□□□□□□□□□□□□□□□□□□□□□□□A□□□□□a□□□□□□□□D□□□□□d□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□XXY□□

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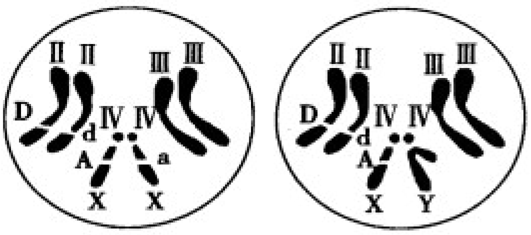

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② [illegible]

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② [illegible]______[illegible]

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[illegible]5[illegible]______[illegible]

51[illegible]R[illegible]r[illegible]I_1[illegible]I_2[illegible]i[illegible]1[illegible]

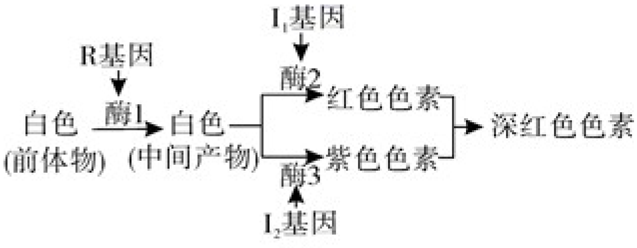

图1

[illegible]1[illegible] I_1 [illegible] I_2 [illegible] mRNA [illegible] 2 [illegible]

I_1基因的mRNA:—ACGUACGAUAGUGGCUGA

I_2基因的mRNA:—ACGUAGGAUAGUGGCUGA

图2

I_1 [illegible] I_2 [illegible]__________[illegible] I_1 [illegible] I_2 [illegible] mRNA [illegible] 2 [illegible]UAA[illegible]UAG[illegible] UGA [illegible]__________[illegible]

[illegible]2[illegible] 1 [illegible]__________[illegible]:[illegible]:[illegible]:[illegible]=7:3:3:3[illegible]__________[illegible]__________[illegible]

[illegible]3[illegible] RRI_1i [illegible] i [illegible] i [illegible] 1 [illegible] 3 [illegible] 4 [illegible] A[illegible]B[illegible]C[illegible]D [illegible]__________[illegible] D [illegible] Ri [illegible]__________[illegible] C [illegible]__________[illegible]

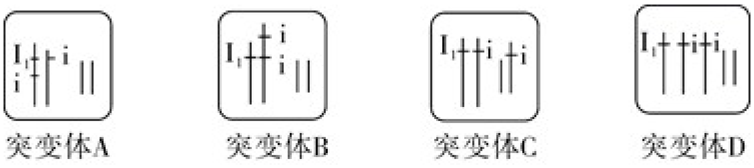

图3

52[illegible] B [illegible] b [illegible]A[illegible]a[illegible]♀[illegible]♂[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	6/16	2/16	0	0
[illegible]	1/16	3/16	1/16	3/16

[illegible]1[illegible] A [illegible] a [illegible]__________[illegible]

[illegible]2[illegible]♂[illegible]______[illegible]__________[illegible]

[illegible]3[illegible] F_1 [illegible] F_1 [illegible]①[illegible] F_1 [illegible] BB[illegible]②[illegible]

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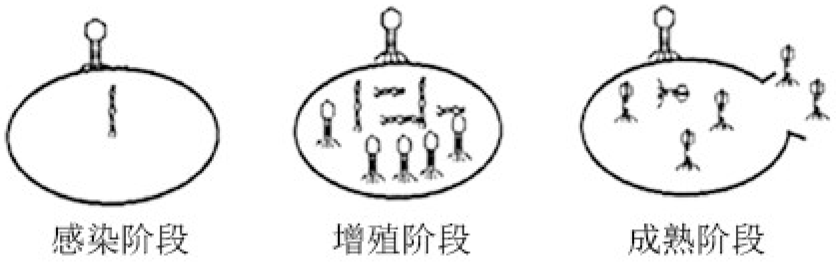

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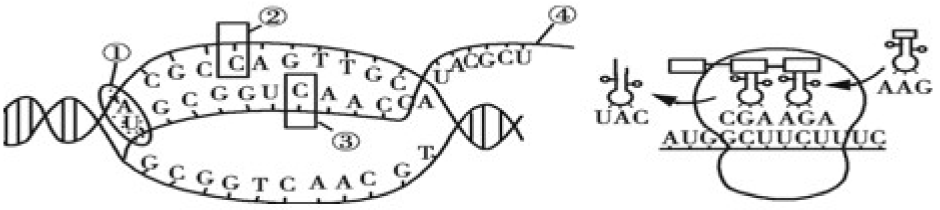
55[illegible]:AUG—[illegible]GCU—[illegible]AAG—[illegible]UUC—[illegible]UCU—[illegible]UAC—[illegible]



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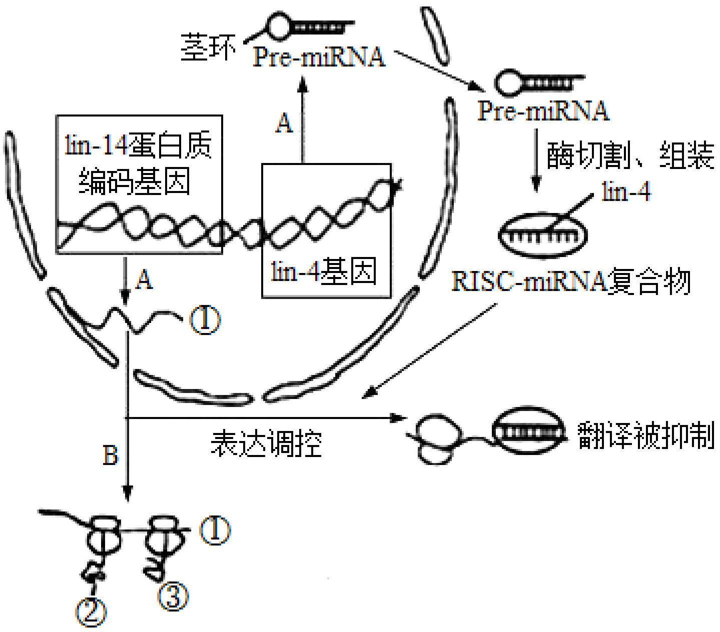
[illegible]4[illegible]3[illegible]______[illegible]3[illegible]______[illegible]

56[illegible]RNA[illegible]miRNA[illegible]RNA[illegible]lin-4[illegible]lin-14[illegible]



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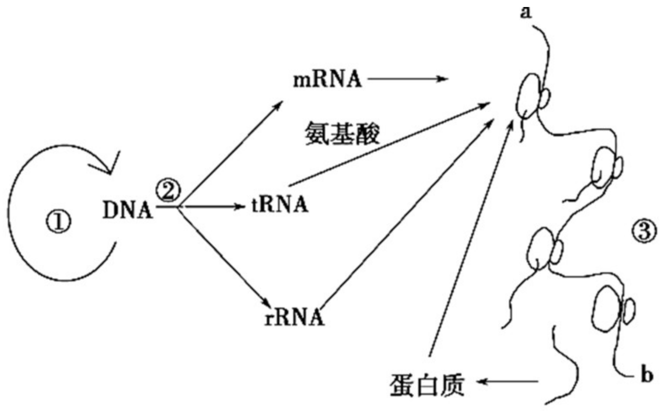

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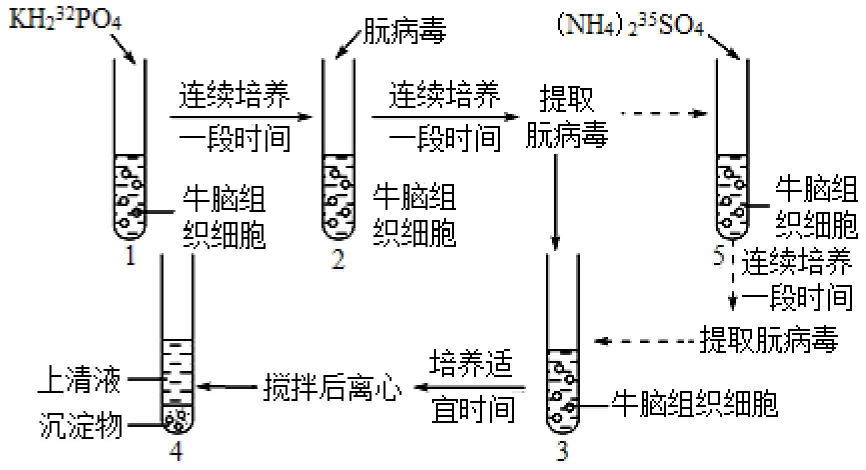

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①RNA [illegible]

②____[illegible]

③DNA [illegible]

[illegible]3[illegible]RNA[illegible]DNA[illegible]H1N1 [illegible]H1N1 [illegible]

[illegible]

① [illegible]__________________________________[illegible]

② [illegible]

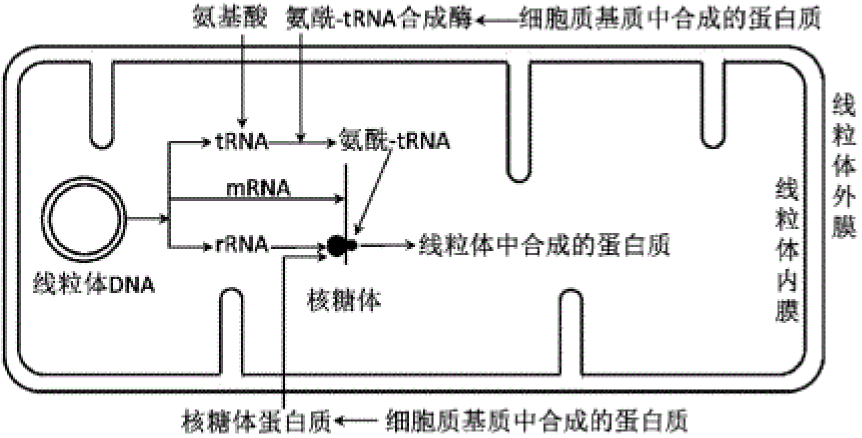
a. _______________________[illegible]________________________[illegible]

b. _______________________[illegible]H1N1 [illegible]RNA [illegible]

c. [illegible]H1N1 [illegible]________________[illegible]

[illegible]

62[illegible]



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[illegible]3[illegible]R_1[illegible]R_2[illegible]________[illegible]

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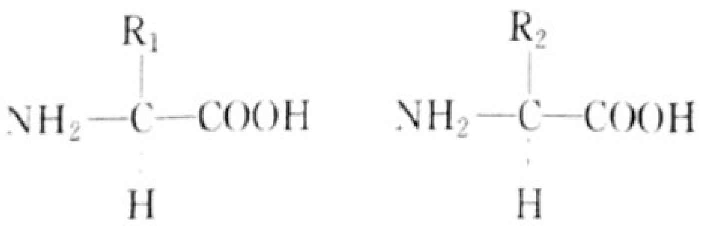

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32．B

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38．C

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40．B

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42．B

43．C

44．C

45．AD

46．ACD

47．BC

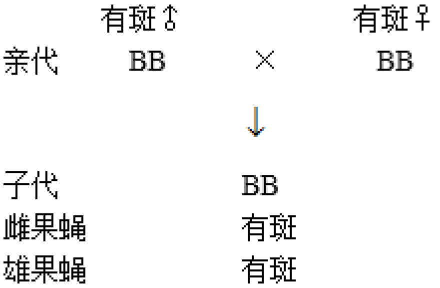
48．[illegible] E [illegible] eX^FY [illegible] eX^FY [illegible] [illegible] 2 0 [illegible] n b→a [illegible] d→c df 0.5

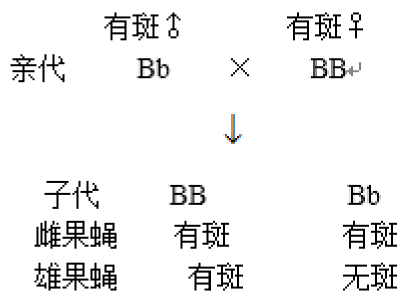
49．[illegible] [illegible] [illegible] ddX^aY 3/4 1/2 [illegible] [illegible] [illegible] [illegible] [illegible]

50．[illegible] 11 e [illegible] t [illegible] t [illegible] i [illegible] e>t>i [illegible] 9 BbX^iX^i [illegible] BbX^tY 1/12 XX [illegible] YY

51．[illegible] [illegible] 8 RrI_1i [illegible] RrI_2i 2/7 [illegible] 1/3 [illegible]:[illegible]:[illegible]=5:7:4

52．[illegible] BbX^AY Bb [illegible] bb





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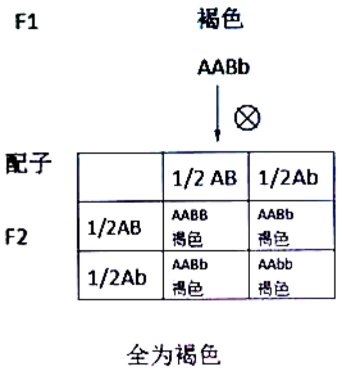

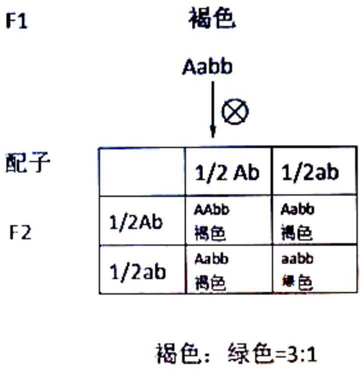

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56、□□□□□□□□□□□□□□ATP□ □□□ tRNA □□ DNA→RNA□□RNA→□□□ □□ □□□□□ $\frac{6b(d-18c)}{a-18}$

57、DNA□□□ □□□□ □□□ □□ RNA□□□ □□□□□ □□□ a□b □□□□□□□□□

58、□□□□□□□□□ □□□□□ □□□□□□□□□□□□□□□□□□□□□□ 4/9 1/6 □□□Rrdd□□□rrDd□□□□□□□□□□□□RRdd□□□rrDD□ ,□□□□□□□□□□□□(RrDd)

59[illegible]2 X^RX^r[illegible]X^RX^rY [illegible]([illegible])[illegible] [illegible] [illegible]

60[illegible] [illegible] [illegible] [illegible]2[illegible]^{32}P [illegible] [illegible] [illegible]^{35}S[illegible] [illegible] [illegible] [illegible]

61[illegible] [illegible] [illegible]RNA[illegible] [illegible]RNA[illegible]H1N1[illegible] H1N1[illegible]RNA[illegible] [illegible]RNA [illegible]H1N1[illegible] H1N1[illegible]

62[illegible] [illegible] [illegible]tRNA[illegible] [illegible] [illegible]DNA[illegible] [illegible] 2 [illegible]